

## **Summary of Cancer Incidence and Mortality for Zip Code 29810 (Allendale, SC)**

### ***Cancer Incidence in Zip Code 29810***

The first step in the analysis of cancer data for zip code 29810 was to look at the number of new cancer cases diagnosed in zip code 29810 and compare this to the number of cancer cases expected (see Table 1). This first step determines if there is anything unusual in the observed cancer patterns in the area. The number of "expected" cancer cases is calculated by using national cancer rates and applying them to the population of the zip code.

Table 1 shows what types of cancer occurred in zip code 29810 from 1996 through 2000, and how many cases of each type of cancer were expected. The total number of cancer cases occurring was very close to what was expected. A total of 128 cases of cancer occurred in the zip code, while 126 cases were expected. The most common types of cancer were female breast, prostate, colon/rectum and lung cancers. These four types of cancer are also the most common cancers occurring across all of South Carolina.

No statistically significant elevations were seen among any specific type of cancer.

### ***Cancer Deaths in Zip Codes 29810***

To assess cancer deaths in this zip code, cancer mortality data from 1997 through 2001 were used. This is the most current death data available. The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number of cancer deaths expected in the zip code. A total of 57 cancer deaths occurred in this zip code, while 61 deaths were expected. Therefore, fewer cancer deaths occurred than expected.

There was one type of cancer (**female breast cancer**) where the number of cancer deaths was significantly higher than expected. A total of 10 female breast cancer deaths occurred while 5 were expected. Closer analysis of the deaths by race shows significant elevations among black women in the zip code but not white women (Table 2a).

A higher number of female breast cancer deaths most likely means that these women were diagnosed at a later stage of disease, when the likelihood of successful treatment is lowest. Looking back at the 21 cases of female breast cancer diagnosed in this zip code, it was determined that 57% of the cases were diagnosed with late stage disease. The percentage of late stage breast cancer diagnosed in South Carolina as a whole is around 30%. Therefore, we see a larger percentage of late stage breast cancer cases in this zip code than in the state. This difference could be because women are not getting screened early enough or they may not have access to mammography screening.

The best defense against this disease is early detection and education about screening techniques. Utilization of mammography screening and awareness of the importance of self-breast examination are very important. If you would like to speak with someone about breast cancer screening, DHEC has staff who work directly with breast cancer issues. The program is called "The Best Chance Network". The phone number is 545-4106.

### ***Conclusions***

To summarize, there were more cases of cancer than expected in zip code 29810, but this difference was not statistically significant. There were fewer cancer deaths than expected. Female breast cancer mortality was significantly higher. The risk factors for breast cancer are associated with a person's lifestyle, what are called "lifestyle risk factors," and genetic risk factors.

In order for a true cancer cluster to exist, the number of cancers occurring must be more than would be expected by chance. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists. First, a cancer cluster would more likely involve rarer types of cancer, such as brain cancer, rather than more common cancers like lung or breast cancers. Also, a cancer cluster would occur with one specific type of cancer rather than having excesses in several different types of cancer.

Taking all these criteria into consideration, there is no evidence of cancer clustering or of cancers resulting from environmental exposures in zip code 29810.

For questions about this report, please contact Laura Sanders at the SC Central Cancer Registry.

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**Table 1. Analysis of New Cancer Cases in Zip Code 29810 (Allendale), 1996-2000**

<b><u>Site</u></b>	<b><u>Observed No. of Cases</u></b>	<b><u>Expected No. of Cases</u></b>	<b><u>Observed/Expected</u></b>	<b><u>Chi-SquareTest*</u></b>
Breast (Female)	21	19.4	1.08	0.13
Prostate	21	19.2	1.10	0.18
Colon/Rectum	17	14.8	1.15	0.31
Lung/Bronchus	13	19.9	0.65	2.37
Non-Hodgkin's Lymphoma	5	<5	NA	NA
Oral/Pharynx	5	<5	NA	NA
Bladder	4	5.1	0.79	0.23
Leukemia	4	<5	NA	NA
Stomach	4	<5	NA	NA
Multiple Myeloma	4	<5	NA	NA
Uterus	3	<5	NA	NA
Pancreas	3	<5	NA	NA
Kidney/Renal Pelvis	2	<5	NA	NA
Cervix	2	<5	NA	NA
Brain/CNS	2	<5	NA	NA
Anus/Anal Canal	2	<5	NA	NA
Vulva	1	<5	NA	NA
Melanoma	1	<5	NA	NA
Esophagus	1	<5	NA	NA
Larynx	1	<5	NA	NA
Thyroid	1	<5	NA	NA
Liver	1	<5	NA	NA
Testis	1	<5	NA	NA
Small Intestine	1	<5	NA	NA
Eye/Orbit	1	<5	NA	NA
Other Urinary	1	<5	NA	NA
Unknown	5	<5	NA	NA
All Sites	128	125.7	1.02	0.04

Excludes in situ cases of cancer to allow for comparison.

Cancer sites with less than 5 cases of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

\*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

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**Table 2. Analysis of Cancer Deaths in Zip Code 29810 (Allendale), 1997-2001**

<u>Site</u>	<u>Observed No. of Deaths</u>	<u>Expected No. of Deaths</u>	<u>Observed/Expected</u>	<u>Chi-Square Test*</u>
<b>Breast (Female)</b>	<b>10</b>	<b>5</b>	<b>2.14</b>	<b>6.09</b>
Prostate	9	<5	NA	NA
Lung/Bronchus	6	17.5	0.34	7.54
Colon/Rectum	6	6.1	0.98	0.00
Pancreas	5	<5	NA	NA
Leukemia	4	<5	NA	NA
Non-Hodgkin's Lymphoma	3	<5	NA	NA
Stomach	3	<5	NA	NA
Multiple Myeloma	2	<5	NA	NA
Brain/CNS	1	<5	NA	NA
Esophagus	1	<5	NA	NA
Kidney/Renal Pelvis	1	<5	NA	NA
Liver	1	<5	NA	NA
Oral/Pharynx	1	<5	NA	NA
Uterus	1	<5	NA	NA
Unknown/III-Defined	2	<5	NA	NA
All Sites	57	60.8	0.94	0.24

**Table 2a. Analysis of Female Breast Cancer Deaths by Race in Zip Code 29810, 1997-2001**

<u>Race</u>	<u>Observed No. of Deaths</u>	<u>Expected No. of Deaths</u>	<u>Observed/Expected</u>	<u>Chi-Square Test*</u>
White	1	1	0.71	0.11
<b>Black</b>	<b>9</b>	<b>4</b>	<b>2.31</b>	<b>6.67</b>

Cancer sites with less than 5 cancer deaths expected are not analyzed due to the unreliability of statistical tests based on small numbers.

\*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of deaths is significantly different from the expected number of deaths.

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